99. FOODS AND BEVERAGES
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sea water
RECORDED

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Bread.

(*This Invention received Provisional Protection only.*)

PROVISIONAL SPECIFICATION left by Adolphe Beque at the Office of the Commissioners of Patents, with his Petition, on the 4th December 1873.

I, ADOLPHE BEQUE, of Rouen, in the Department of the Seine Inférieure, in the Republic of France, Baker, do hereby declare the nature of the said Invention for "AN IMPROVED PROCESS OF MAKING BREAD," to be as follows :—

Of all the salutary principles that it has long been sought to introduce into the numerous processes of panification hitherto tried, that, the employment of which has presented most difficulties, is undeniably sea water. In fact either in consequence of bad proportions in combining the ingredients, or defective preparation either of the sea water or in making the leaven, or it may be in the mixing of those two substances, no bread has hitherto been produced uniting the qualities required for its adoption in trade, and into the making of which sea water has entered. I have endeavoured to solve this difficulty and I believe I have overcome it.

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Beque's Improved Process of Making Bread.

My new bread will I believe find favour not only for daily consumption but particularly with convalescents; it will contribute to the recovery of asthmatic or consumptive persons, and those suffering from diabetes, and be a great preservative agent against epidemic diseases.

Starch and gluten enter for the largest part into the composition of flour, and contribute collectively to the several operations and various phases of panification.

Starch appears at first sight to be insoluble, and it is only at a certain degree that it disaggregates and changes its form, taking that of vegetation, and it is thus that converted into starch paste it forms the crumb of the bread.

Gluten on the contrary combines easily with water, and acquiring by its mixture with this latter a great deal of elasticity, it surrounds the moistened starch and causes it to preserve the shape that it is desired to give to the bread, without the gluten the bread would be not only uneatable but also totally indigestible.

Sea water which enters into the making of my new bread possesses all the qualities of the gluten, and exerts on the starch the same action as this latter, and thence the lightness and agreable savour which characterize my bread.

Moreover by the use of sea water in panification 80 per cent. of panified flour may be obtained instead of the 70 per cent. obtained by ordinary processes.

Preparation of my new bread which I propose to term hygienic bread or bread for convalescents. This preparation is divided into four distinct operations.

1°. Preparation of the sea water.

2°. Preparation of the leaven.

3°. Regulation of the relative proportions of sea water, leaven, and flour.

4°. The mixing of the leaven with the sea water, both being prepared separately.

Preparation of the Sea Water.—For this operation the sea water to be used is allowed to settle for some time in a tank or basin of baked clay,

pottery, or other suitable material exposed to the open air, it is afterwards submitted to ebullition in order to free it from all the extraneous matters which it may contain, and is then ready for use in the making of my bread.

Preparation of the Leaven.—The peculiar nature of my new bread demands a leaven of greater strength than that used in the usual processes, into which it enters in equal quantity with the flour, while according to my method it must be of greater weight than the flour, as will be herein-after apparent.

I prepare my leaven thus:—My first leaven termed by bakers "young leaven" is obtained by the aid of a certain quantity of flour termed "first groats" (the weight of this quantity being proportioned to that of the bread to be obtained), moistened with lukewarm or hot water, according to the temperature of the season, and according to the conditions of the climate in which the operation takes place, and the paste thus formed is allowed to enter into fermentation. This fermentation having attained the required degree after several hours rest, the paste should then present the following aspects:—

The lump which is previously formed should be doubled in size; the shape of this lump of paste should be convex, almost semi-spherical, and present a perfectly smooth surface. It should resist and even repel the pressure of the hand placed in contact with water; it should float on the surface and still retain tenacity while always preserving its second form.

The odour exhaled by the paste should be of an agreable palatable savour. Arrived at this point the paste is submitted to a second operation termed by bakers "wetting again the second leaven," which is effected by renewing the first operation above described, taking care however to increase the bulk by one-third, the paste will be kept less stiff than that of the first leaven but it should be more worked.

Passing now to the third leaven termed "leaven of all qualities" ("levain de tout point"), it must be taken into consideration that its weight should in summer be equal to half the weight of the bread to be obtained, while in winter it should be equal to two-thirds its weight. The work is the same as in the first operation. This leaven should not have a more acidulated taste than the dough of which the bread is to be made, that is to say, it should be entirely devoid of all acidity.

Beque's Improved Process of Making Bread.

Regulation of the Quantities of Ingredients.—The mixing should be in about the following proportions, namely, to produce 100lbs. of bread, take—

Leaven	- -	40 lbs.	
Sea water	- -	27 „ 12 oz.	} 100 pounds.
Flour	- -	32 „ 4 „	

The progressive mixing of the leaven with the sea water is first effected, and then these two thus united are mixed with the flour.

1°. The manipulation begins by rolling or working the dough or paste in the ordinary way, then instead of any counter rolling ("contre fraser"), the dough is cut into small pieces which are thrown the one over the other until it is dry enough to be sufficiently beaten to render it more supple, and by this means make it assume more consistency. The next process is the weighing, after which it is placed in layers, taking care not to turn the dough as is usually done, but to bring it down flat-wise, turning over each corner upon itself while nevertheless giving to it the desired shape, in this manner no dry flour can enter into the inside of the dough.

2°. The dough being in layers, heat should be introduced to a degree high enough to effect the raising of the dough, this preparation terminated, that is to say, the dough being sufficiently raised, it is passed to the oven to be baked, taking care to maintain a more moderate heat.

In conclusion I would observe that sea water possesses this further quality, namely, that whatever the quantity of flour used, the dough always becomes close and forms a bread of correct structure, that is to say, without holes. Therefore given these various properties of sea water I obtain a bread which keeps very fresh for some time, while preserving an agreable taste as well as the other qualities above enumerated.

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